Questions and Answers

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Serious Adverse Events Attributed to Nevirapine Regimens for Postexposure Prophylaxis After HIV Exposures

Occupational Postexposure Prophylaxis

Q1: What is postexposure prophylaxis? Is it effective?

A1: Postexposure prophylaxis (PEP) refers to using certain drugs called antiretrovirals, or a combination of these drugs, in an attempt to reduce the risk of HIV infection for health care workers following an exposure to the blood or body fluids of a patient with HIV. One study of health care workers who took AZT for PEP after a needlestick injury found an 81 percent reduction in HIV infection.

Q2: Does the US Public Health Service (USPHS) recommend nevirapine for PEP?

A2: Nevirapine has not been recommended for PEP use by USPHS and has previously been associated with instances of serious skin conditions, liver damage, and death when used for treating HIV-infected individuals.

Q3: Should the drug ever be used for PEP? Are there any situations when the benefits of nevirapine for PEP outweigh the risks?

A3: The only possible exception would be if an individual is exposed to HIV from a patient with known drug resistance to all other available antiretrovirals. In this case, consultation with an antiviral expert would be recommended, and a thorough review of potential risks and benefits would be necessary. After this review, if the exposed individual decided to take nevirapine as part of his or her PEP, she/he would need to be monitored closely for serious side effects, including those reported in today's MMWR, and the dose regimen should be followed as recommended by the manufacturer.

Q4: What are USPHS recommendations regarding the use of PEP?

A4: PEP is not recommended for all types of occupational exposures to HIV. Because most occupational exposures do not lead to HIV infection, the chance of possible serious side effects (toxicity) from any of the drugs used to prevent infection may be much greater than the chance of HIV infection from such exposures. Both risk of infection and possible side effects of drugs should be carefully considered when deciding whether to prescribe PEP. Exposures with a lower infection risk may not be worth the risk of side effects associated with these drugs.

For those deciding to take PEP, USPHS recommends a four-week course of two drugs (zidovudine and lamivudine) for most HIV exposures, or zidovudine and lamivudine plus a protease inhibitor (indinavir or nelfinavir) for exposures that may pose a greater risk for transmitting HIV (such as those involving a larger volume of blood or those involving a source patient with advanced HIV disease). Differences in side effects associated with the use of these drugs and the possibility of drug resistance in the source patient may influence which drug is selected in a specific situation.

Determining which drugs and how many drugs to use or when to change a treatment regimen should be guided by published recommendations and the judgement of the treating physician. Whenever possible, consulting an expert with experience in the use of antiviral drugs is advised, especially if a recommended drug is not available, if the source patient's virus is likely to be resistant to one or more recommended drugs, or if the drugs are poorly tolerated.

Q5: Are there adverse side effects for the drugs recommended for PEP?

A5: All of the antiretroviral drugs for HIV have been associated with side effects. The most common side effects include upset stomach (nausea, vomiting, diarrhea), tiredness, or headache. The few serious side effects that have been reported in health-care workers using combination postexposure treatment have included kidney stones, hepatitis, and suppressed blood cell production. Protease inhibitors (indinavir and nefinavir) may interact with other medicines and cause serious side effects and should not be used in combination with certain drugs. It is important for exposed individuals to tell the health-care provider managing his/her exposure about any medications she/he is currently taking before taking antiviral drugs for an HIV exposure.

Preventing Perinatal HIV Transmission

Q1: Given these findings, does USPHS still recommend nevirapine for prevention of perinatal HIV transmission? How do we know it is safe?

A1: These findings relate to multiple doses of nevirapine given as prophylaxis over several weeks and do not apply to the use of a single dose of nevirapine given to mothers and infants to prevent perinatal transmission of HIV. Safety data from three separate efficacy trials (US, South Africa, and Uganda) involving more than 1,000 mother-infant pairs have demonstrated no severe adverse reactions associated with the receipt of single-dose nevirapine. Current USPHS perinatal antiretroviral recommendations include use of nevirapine as one of the options for HIV-

infected pregnant women presenting in labor who are not tested for HIV during their pregnancy. Recent UNAIDS/WHO recommendations, based on both safety and efficacy, include single-dose nevirapine to mothers and infants as one of the options for prevention of mother-to-child HIV transmission in developing countries.

Treating Advanced HIV Disease

Q1: Given these findings, is nevirapine still recommended as an option for treatment of HIV-infected individuals?

A1: With regard to treatment of HIV-infected individuals with advanced disease, physicians should be aware that the severe hepatotoxicity has been described in patients receiving nevirapine as part of combination antiretroviral drug regimens, although this complication appears to be uncommon. The manufacturer's package insert contains a box warning about this adverse effect, and current antiretroviral guidelines list hepatotoxicity as a potential adverse effect of nevirapine. Physicians should weigh the potential benefits versus risks when prescribing nevirapine, as well as all other medications, for HIV-infected persons.

Q2: Why is nevirapine sometimes recommended to treat HIV-infected individuals, but not recommended for PEP?

A2: Individuals occupationally exposed to HIV have an extremely small chance of becoming infected with HIV without any PEP at all (about one in 300 for a needlestick or cut exposure to HIV-infected blood). Thus, the risk of serious side effects, including life-threatening liver damage, to an other-wise healthy person must be weighed carefully against the likelihood of the individual becoming infected. Also, there are many effective alternative drugs available for PEP.

A patient with advanced HIV disease often develops resistance to antiretrovirals and many of these drugs may no longer be effective in fighting the virus. Thus, the potential benefits of nevirapine for an infected individual, for whom there may be no other options, may outweigh the risk of adverse side effects.

For Additional Information

Guidelines for postexposure prophylaxis, the use of antiretrovirals in HIV-infected adults and adolescents, and interventions to reduce perinatal HIV transmission can be found at: www.cdc.gov/hiv/treatment.htm.